

**A. AMENDMENTS TO CLAIMS**

Please add new Claims 17-24 and amend the claims as indicated hereinafter.

1. (CURRENTLY AMENDED) A method of debugging a first software program, the method comprising the steps of:

preserving a memory state of a preserved portion of the first software program;

dynamically linking a second software program to the first software program without deallocating from volatile memory the first software program;

executing the second software program; and

~~when~~ if execution of the second software program would otherwise cause modification to targeted data that is in the preserved portion of the first software program, ~~then~~ making a copy of the targeted data and modifying the copy of the targeted data to generate a modified copy of the targeted data without modifying the targeted data that is in the preserved portion of the first software program.

2. (ORIGINAL) The method of Claim 1, further comprising the steps of:

publishing in the preserved portion of the first software program a corresponding symbolic name associated with the second software program; and

multiple users accessing the second software program is accessed through the corresponding symbolic name.

3. (ORIGINAL) The method of Claim 1, wherein the first software program is a database system.

4. (ORIGINAL) The method of Claim 1, wherein the step of preserving a memory state further includes the step of suspending a failed application of the database system.

5. (ORIGINAL) The method of Claim 1, further including the step of, in response to a subsequent attempt to access the targeted data in the preserved portion of the first software program, accessing the modified copy of the targeted data.

6. (ORIGINAL) The method of Claim 5, wherein the steps of dynamically linking and executing are initiated by a particular user, and wherein the step of accessing the modified copy occurs only if that particular user initiates the subsequent attempt to access the targeted data.

7. (ORIGINAL) The method of Claim 1, wherein:  
the steps of dynamically linking and executing the second software program are performed by a first user;  
the modified copy is a first modified copy of the targeted data; and  
the method further comprises the steps of:  
after the first modified copy has been created for the first user, a second user executing performing an operation which, when executed, would cause modification to the targeted data in the preserved portion; and

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performing the operation by making a second copy of the targeted data and  
modifying the second copy to generate a second modified copy of the  
targeted data, the second modified copy being separate from the first  
modified copy and from the preserved portion.

1 8. (ORIGINAL) The method of Claim 7, further comprising the steps of:  
2 after the first and second modified copies have been created for the first user and  
3 second user respectively, a third user dynamically linking and executing a  
4 third software program which, when executed, would cause modification to  
5 the targeted data in the preserved portion; and  
6 making a third copy of the targeted data and modifying the third copy to generate a  
7 third modified copy, the third modified copy being separate from the first  
8 modified copy, from the second modified copy, and from the preserved  
9 portion.

1 9. (CURRENTLY AMENDED) A computer-readable medium bearing instructions for  
2 debugging a first software program, the instructions arranged, when executed by one  
3 or more processors, to cause the one or more processors to perform the steps of:  
4 preserving a memory state of a preserved portion of the first software program;  
5 dynamically linking a second software program to the first software program without  
6 deallocating from volatile memory the first software program;  
7 executing the second software program; and

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when if execution of the second software program would otherwise cause  
modification to targeted data that is in the preserved portion of the first  
software program, then making a copy of the targeted data and modifying the  
copy of the targeted data to generate a modified copy of the targeted data  
without modifying the targeted data that is in the preserved portion of the first  
software program.

1 10. (ORIGINAL) The computer-readable medium of Claim 9, further comprising the  
2 steps of:  
3 publishing in the preserved portion of the first software program a corresponding  
4 symbolic name associated with the second software program; and  
5 multiple users accessing the second software program is accessed through the  
6 corresponding symbolic name.

1 11. (ORIGINAL) The computer-readable medium of Claim 9, wherein the first software  
2 program is a database system.

1 12. (ORIGINAL) The computer-readable medium of Claim 9, wherein the step of  
2 preserving a memory state further includes the step of suspending a failed  
3 application of the database system.

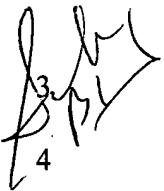
1 13. (ORIGINAL) The computer-readable medium of Claim 9, further including the  
2 step of, in response to a subsequent attempt to access the targeted data in the

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preserved portion of the first software program, accessing the modified copy of the targeted data.

1 14. (ORIGINAL) The computer-readable medium of Claim 13, wherein the steps of  
2 dynamically linking and executing are initiated by a particular user, and wherein  
3 the step of accessing the modified copy occurs only if that particular user initiates  
4 the subsequent attempt to access the targeted data.

1 15. (ORIGINAL) The computer-readable medium of Claim 9, wherein:  
2 the steps of dynamically linking and executing the second software program are  
3 performed by a first user;  
4 the modified copy is a first modified copy of the targeted data; and  
5 the method further comprises the steps of:  
6 after the first modified copy has been created for the first user, a second user  
7 executing performing an operation which, when executed, would cause  
8 modification to the targeted data in the preserved portion; and  
9 performing the operation by making a second copy of the targeted data and  
10 modifying the second copy to generate a second modified copy of the  
11 targeted data, the second modified copy being separate from the first  
12 modified copy and from the preserved portion.

1 16. (ORIGINAL) The computer-readable medium of Claim 15, further comprising the  
2 steps of:

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after the first and second modified copies have been created for the first user and second user respectively, a third user dynamically linking and executing a third software program which, when executed, would cause modification to the targeted data in the preserved portion; and making a third copy of the targeted data and modifying the third copy to generate a third modified copy, the third modified copy being separate from the first modified copy, from the second modified copy, and from the preserved portion.

- 1 17. (NEW) An apparatus for debugging a first software program, wherein the apparatus  
2 comprises a memory storing one or more instructions which, when executed by one  
3 or more processors, cause the one or more processors to perform the steps of:  
4 preserving a memory state of a preserved portion of the first software program;  
5 dynamically linking a second software program to the first software program without  
6 deallocating from volatile memory the first software program;  
7 executing the second software program; and  
8 if execution of the second software program would otherwise cause modification to  
9 targeted data that is in the preserved portion of the first software program,  
10 then making a copy of the targeted data and modifying the copy of the  
11 targeted data to generate a modified copy of the targeted data without  
12 modifying the targeted data that is in the preserved portion of the first  
13 software program.

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(NEW) The computer-readable medium of Claim 17, wherein the memory includes one or more additional instructions which, when executed by the one or more processors, cause the one or more processors to perform the additional steps of: publishing in the preserved portion of the first software program a corresponding symbolic name associated with the second software program; and multiple users accessing the second software program is accessed through the corresponding symbolic name.

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(NEW) The computer-readable medium of Claim 17, wherein the first software program is a database system.

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(NEW) The computer-readable medium of Claim 17, wherein the step of preserving a memory state further includes the step of suspending a failed application of the database system.

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(NEW) The computer-readable medium of Claim 17, wherein the memory includes one or more additional instructions which, when executed by the one or more processors, cause the one or more processors to perform the additional step of, in response to a subsequent attempt to access the targeted data in the preserved portion of the first software program, accessing the modified copy of the targeted data.

1 22. (NEW) The computer-readable medium of Claim 21, wherein the steps of  
2 dynamically linking and executing are initiated by a particular user, and wherein  
3 the step of accessing the modified copy occurs only if that particular user initiates  
4 the subsequent attempt to access the targeted data.

1 23. (NEW) The computer-readable medium of Claim 17, wherein:  
2 the steps of dynamically linking and executing the second software program are  
3 performed by a first user;  
4 the modified copy is a first modified copy of the targeted data; and  
5 wherein the memory includes one or more additional instructions which, when  
6 executed by the one or more processors, cause the one or more processors to  
7 perform the additional steps of:  
8 after the first modified copy has been created for the first user, a second user  
9 executing performing an operation which, when executed, would cause  
10 modification to the targeted data in the preserved portion; and  
11 performing the operation by making a second copy of the targeted data and  
12 modifying the second copy to generate a second modified copy of the  
13 targeted data, the second modified copy being separate from the first  
14 modified copy and from the preserved portion.

1 24. (NEW) The computer-readable medium of Claim 23, wherein the memory includes  
2 one or more additional instructions which, when executed by the one or more  
3 processors, cause the one or more processors to perform the additional steps of:



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after the first and second modified copies have been created for the first user and  
second user respectively, a third user dynamically linking and executing a  
third software program which, when executed, would cause modification to  
the targeted data in the preserved portion; and  
making a third copy of the targeted data and modifying the third copy to generate a  
third modified copy, the third modified copy being separate from the first  
modified copy, from the second modified copy, and from the preserved  
portion.